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WHAT IS CLAIMED IS:

5 1. A heterogeneous braid comprising a first and second set of continuous and discrete yarns in a sterilized, braided construction wherein at least one yarn from the first set is in direct intertwining contact with a yarn from the second set, and:

10 a) each yarn from the first set is composed of a plurality of filaments of a first fiber-forming material, and

b) each yarn from the second set is composed of a plurality of filaments of a second fiber-forming material.

15 2. The heterogeneous braid of claim 1 wherein the first and second fiber-forming materials are nonmetallic.

20 3. The heterogeneous braid of claim 2 wherein the first and second fiber-forming materials are synthetic fiber-forming polymers.

25 4. The heterogeneous braid of claim 3 wherein the synthetic fiber-forming polymers are bioabsorbable.

5. The heterogeneous braid of claim 4 wherein the bioabsorbable polymers are derived from a monomer selected from the group consisting of glycolic acid, glycolide, lactide, p-dioxanone, ε-caprolactone, trimethylene carbonate, and mixtures thereof.

30 6. The heterogeneous braid of claim 3 wherein the fiber-forming polymers are nonabsorbable.

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1. The ~~heterogeneous braid~~ ^{surgical suture} of claim ~~6~~ ¹ wherein the first fiber-forming material exhibits a surface energy less than about 38 dynes/cm.

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5 8. The ~~heterogeneous braid~~ ^{surgical suture} of claim ~~7~~ ³ wherein the first fiber-forming material exhibits a surface energy less than about 30 dynes/cm.

9. The heterogeneous braid of claim 8 wherein the first set of yarns is PTFE, FEP, PFA, PVDF, PETFE, PP or PE.

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10. The ~~heterogeneous braid~~ ^{surgical suture} of claim ~~9~~ ⁴ wherein the first set of yarns is PTFE.

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15 11. The ~~heterogeneous braid~~ ^{surgical suture} of claim ~~10~~ ⁵ wherein the second set of yarns exhibits a yarn tenacity greater than 3.0 grams/denier.

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20 12. The ~~heterogeneous braid~~ ^{surgical suture} of claim ~~11~~ ⁶ wherein the second set of yarns exhibits a yarn tenacity greater than 5.0 grams/denier.

13. The heterogeneous braid of claim 12 wherein the second set of yarns is PET, nylon or aramid.

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25 14. The ~~heterogeneous braid~~ ^{surgical suture} of claim ~~13~~ ¹ wherein the second set of yarns is PET.

15. The heterogeneous braid of claim 14 wherein each yarn from the first set is in direct intertwining contact with a yarn from the second set.

16. The heterogeneous braid of claim 15 wherein the braid encloses a core of longitudinally extending yarns.

17. The heterogeneous braid of claim 16 wherein the longitudinally extending yarns are PET.

5 18. The ~~heterogeneous braid~~ ^{surgical suture} of claim ~~17~~ ⁸ wherein the volume fraction of the first set of yarns in the braided sheath and core ranges from about 20 to about 80 percent.

10 19. The ~~heterogeneous braid~~ ^{surgical suture} of claim ~~18~~ ⁹ wherein the fiber fineness of the yarns of the first and second sets is less than 10 denier per filament.

15 20. The ~~heterogeneous braid~~ ^{surgical suture} of claim ~~19~~ ¹ wherein at least one yarn from the first set of yarns is plied together to a yarn from the second set of yarns.

21. A surgical suture comprising the heterogeneous braid of claim 1.

20 22. A surgical suture comprising the heterogeneous braid of claim 19.

23. The surgical suture of claim 21 wherein the suture is attached to a needle.

25 24. The surgical suture of claim ~~22~~ ⁸ wherein the suture is attached to a needle.

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